

State of Oregon
Department of Environmental Quality

Memorandum

Date: July 19, 2007

To: Jim Anderson, Manager, NWR Portland Harbor Section

From: *TR* Tom Roick, Project Manager, NWR Cleanup Section

Cc: Keith Johnson, Manager, NWR Cleanup Section

Subject: Recommendation for No Further Action,
Paco Pumps ECSI # 146

Purpose

This memo summarizes the Department of Environmental Quality's (DEQ's) review of site investigation and cleanup actions completed at the Paco Pumps site located at 2551 NW 30th Avenue in Portland, Oregon (attached Figures 1 and 2). The former site owner, Sulzer Pumps, Inc. requested DEQ review through the Independent Cleanup Program.

In summary, Paco Pumps is no longer in operation at the site, and cleanup and redevelopment site improvements have addressed risk to human health and the environment and limited any future pathway of contaminant migration from the former facility to the Willamette River. We are proposing a No Further Action determination (NFA) for the Paco Pumps site. The proposed NFA is limited to the upland property boundary (as shown on attached Figure 2) and does not cover potential historic releases to the Willamette River through sanitary or stormwater discharges.

Background

The Paco Pumps site is 1.34 acres consisting of Tax Lot 2600. It is located in the southeast quarter of Section 29, Township 1 North, Range 1 East of the Willamette Meridian, approximately 4,000 feet from the west side of the Willamette River in a heavy industrial area within the City of Portland stormwater outfall Basin 17. Sanitary and stormwater from the facility discharge through lines connected to the City of Portland's sewer system. The site is located in a part of Basin 17 where sanitary and stormwater are combined in a line that runs beneath NW 30th Avenue and ultimately discharges to the City's Columbia Wastewater Treatment Plant.

The site was undeveloped prior to operations of the Pacific Pumping Company which began as early as 1956. Paco Pumps purchased the property in 1986 and performed the same operations as Pacific Pumping Company, which entailed pump assembly, pump rental, and pump servicing. Operations included an office, paint booth, shop, and washing station and service area for pumps (as shown on attached Figure 2).

Until mid-1995, when the facility upgraded its wash water collection and disposal practices, there were two metal-lined sumps in the southwest part of the building (in the vicinity of the wash station and floor drain shown on Figure 2). One of the sumps collected washwater from pump cleaning and discharged the water to the City sanitary sewer. The second sump was filled with water to pressure test pumps and had no drain or outlet (there is no documentation for how wastewater was managed). A third sump located further north in the shop pump assembly area, collected wastewater from the testing of new pumps, and formerly discharged through a pipe that penetrated the west wall of the building and onto the ground surface outside the building (see attached Figure 3). After 1987 the sump discharge was re-routed to the sanitary sewer. In 1995 Paco Pumps upgraded the interior of the facility and made improvements to their wastewater management practices. They filled in and concreted over the wash and test sumps and routed wastewater through a new oil/water separator (located in the same area) which discharged into the City sanitary sewer.

DEQ Site Assessment conducted a file review for the site in 1995 and concluded that the only outstanding hazardous substance issue was additional work needed to better characterize an area of polychlorinated biphenyl (PCB)-contaminated soil on the west side of the building related to the former discharge pipe (shown on Figure 4). A summary of the investigation and cleanup for this area and for related sanitary and stormwater discharge concerns are provided in more detail below. Phase I and Limited Phase II Environmental Site Assessments were conducted for the property by GeoDesign in 2004. In addition to the PCB-contaminated area, the following concerns have been identified and addressed at the site:

- Until 1992, Paco Pumps sandblasted pumps near the southwest corner of the building. Analytical testing for disposal showed the material was not a hazardous waste. The waste grit was cleaned up and disposed of off-site in 1993.
- As part of the facility improvements in 1995, petroleum contaminated soil was excavated beneath the concrete floor of the building where cracks in the concrete had allowed petroleum to migrate through to underlying soil. This work was completed in the wash station area (shown on Figure 2). Following the removal of approximately 1 foot of soil, confirmation samples were collected and analyzed with results of 15 mg/kg, 20 mg/kg, and 20 mg/kg total petroleum hydrocarbons (TPH) by Method 418.1. No PCBs were detected and the tests were non-detect for RCRA metals by TCLP.
- A City of Portland plumbing record dated 1952 indicates the presence of a dry well outside the southeast corner of the building. The plumbing record shows the dry well located 12 feet to the east of an interior floor drain (attached Figure 5). In 2006, GeoDesign subcontracted for a geophysical survey at the site to search for the potential dry well and a decommissioned underground storage tank (next bullet item below). No indications of a dry well were observed; in addition, during utility work for site redevelopment there has been no observed surface or subsurface features indicating a dry well in the area. The interior floor drain shown on the plumbing record, which likely discharged to the City sewer, has been sealed as part of current building reconditioning.

- In 2006, GeoDesign used the results of a geophysical survey to locate a heating oil underground storage tank (UST) east of the building office (as shown on Figure 3). The UST had been previously decommissioned in place by filling with concrete slurry in 1993. GeoDesign completed two soil borings at either end of the UST. No field indications of contamination were observed on soil in the two borings. Testing included sheen testing, headspace vapor readings, and visual and olfactory evaluations to a depth of 15 feet in the borings. Two soil samples from 9 to 10 feet depth were analyzed for total petroleum hydrocarbons with nondetectable results.

In September 2004, Sulzer US Holdings, Inc. purchased the property from Paco Pumps. Paco Pumps continued operations at the site under a lease until August 2006. Kaiser Group, Inc. purchased the property from Sulzer in September 2006, and it is currently being redeveloped. Construction activities are nearly completed and the site is being marketed as a seven unit industrial complex for use by industrial tenants.

Investigation and Cleanup Actions

Shallow Soil

In 1987 Paco Pumps first began investigation of oil-stained soil beneath the pump test discharge pipe on the west side of the building. Aroclor 1254 polychlorinated biphenyls (PCBs) were detected in a soil sample beneath the pipe discharge at a concentration of 10 mg/kg. Paco Pumps maintains that it never used PCBs in its operations. Another potential source of contamination in this area is the adjacent rail lines that run across the west side of the facility. However, investigation was focused on the Paco Pumps property and PCB concentrations were highest near the Paco Pumps building and in the vicinity of the former pipe discharge. Pegasus Waste Management Inc. (PWMI) conducted the soil sampling and removed contaminated soil to a depth of 12 inches. Approximately 1.25 cubic yards of contaminated soil was excavated. Additional soil sampling was conducted by Earth Tech in 1995. Following DEQ's 1995 Site Assessment review, GeoDesign completed additional soil sampling in the area of concern in 2004 and again in 2006. The PCB and petroleum hydrocarbon sample results from the west side of the building conducted by PWMI, Earth Tech., and GeoDesign are summarized in attached Table 1.

In January 2007, GeoDesign removed an additional 17.97 tons of soil from the contaminated area. GeoDesign estimated that the depth of PCB impacts were limited to approximately 1 foot, but excavated to 1.5 feet below ground surface as a conservative measure. PCBs were not detected in any of the post-removal soil confirmation samples collected at depths of 0.5 to 1.0 feet and 1.5 to 2.0 feet. Detection limits ranged from 0.0796 mg/kg to 0.0847 mg/kg. The PCB soil concentrations outside of the removal area ranged from nondetect to 0.457 mg/kg. Only PCB Aroclors 1254 and 1260 were detected (attached Figure 3).

The residual PCB concentrations are below DEQ human health risk-based concentrations (RBCs) of 0.98 mg/kg occupational, 7.6 mg/kg construction worker, 210 mg/kg excavation worker, and 0.60 mg/kg urban residential, as well as below DEQ's PCB generic remedy for industrial sites of 7.5 mg/kg and residential sites of 1.2 mg/kg. A land use determination submitted by GeoDesign

documents that the site is currently zoned industrial and the reasonably likely future land use is industrial.

With respect to ecological risk, residual site PCB concentrations are below DEQ's lowest available Level II Screening Level Value of 4 mg/kg for soil. In addition, the site is in a heavy industrial area that limits wildlife exposure.

With respect to potential groundwater contamination, the facility investigations indicate that PCBs in soil has not migrated vertically more than approximately 2 feet below ground surface and petroleum hydrocarbon contamination has not migrated vertically more than approximately 4 feet below ground surface. DEQ's RBC guidance for occupational workers does not list a PCB value for soil leaching to groundwater because it would exceed the limit of equilibrium partitioning. Sanitary and stormwater lines at the site extend to approximately 7 feet below grade based on GeoDesign's excavation of the line for cleanout. The groundwater table has been measured in area wells at 6 to 21 feet below ground surface. No groundwater investigations have been deemed necessary for the site.

Potential Stormwater Exposure and Inline Sediments

In 2001 the facility received a "no exposure certification" from the City of Portland indicating that a permit was not required for stormwater discharges. Although the combined site sanitary and stormwater discharges flow to the City's Columbia Wastewater Treatment Plant, the city estimates that rain events greater than 0.1 inch will cause a combined sewer overflow to Outfall 17 and the Willamette River.

Portland Harbor Joint Source Control Strategy (JSCS) MacDonald Probable Effects Concentrations (PECs) for sediment are 0.200 mg/kg for PCB 1260 and 0.300 mg/kg for PCB 1254 and the bioaccumulative sediment value is 0.010 mg/kg for PCB 1254. While the residual soil PCB concentrations slightly exceed these values at a maximum of 0.457 mg/kg, there does not appear to be a complete pathway for surface soil migration at the western part of the site to sediments. Stormwater at the western portion of the site infiltrates through surface soils and railroad ballast and has not been observed to discharge to the stormwater system along NW 30th Avenue.

City industrial stormwater inspectors previously indicated that sheet flow from a small area in the southeastern portion of the site drained to a catch basin in the City right-of-way. In May 2007 the City and DEQ sampled a catch basin in the City right-of-way adjacent to the southeast corner of the site (Figure 6). Samples were analyzed by the City Water Pollution Control Laboratory with contaminant detections that included 0.271 mg/kg Aroclor 1242, 0.143 mg/kg Aroclor 1260, 6.70 mg/kg Bis(2-ethylhexyl) phthalate, 1990 mg/kg copper, 813 mg/kg lead, and 16600 mg/kg zinc. The presence of contaminants in a catch basin off the southeast corner of the facility, including Aroclor 1242 which was not detected in on-site soils, is not consistent with known historical operations of the Paco Pumps facility. It is not clear to what extent past Paco Pump operations or current development activities may have contributed to contaminants detected in the catch basin solids. Contaminants detected in the catch basin could equally be attributed to runoff from the NW

30th Avenue right-of-way and associated adjacent industrial facilities (e.g., the Galvanizers facility is located across NW 30th Avenue to the east of Paco Pumps). Analysis of inline solids collected for the adjacent GE site investigation (GE is located across Industrial Avenue to the northeast of Paco Pumps) did not detect PCBs in the combined sewer manhole immediately downgradient of Paco Pumps, while PCBs were detected in the stormwater manhole which receives runoff from 30th Avenue. As part of the Paco Pumps site redevelopment, exposed soils at the western side of the facility where PCBs were detected was covered with 2 feet of gravel. The eastern side of the facility that borders NW 30th Avenue, including the southeast corner, was re-conditioned with sidewalks and landscaping or new asphalt paving. In addition, the newly installed stormwater catch basins along NW 30th Avenue are over 100 feet from the western areas of the site where PCBs were detected. Once ongoing construction is completed, stormwater runoff will derive from the newly paved street and parking areas and a recently replaced roof. Therefore, stormwater runoff from the site will not be a source of contamination to Portland Harbor.

Although Paco Pumps is no longer in operation and all process related floor drains or sumps were capped as part of the facility redevelopment, potentially contaminated sediments remaining in the combined sanitary/stormwater line from past operations may have continued to migrate through the system from ongoing stormwater discharges. In order to address this concern, GeoDesign, on behalf of Sulzer, Inc. completed a flushing of the accessible lines and collection of the resulting solids and wastewater. In order to complete the line flushing the identified sanitary/storm line from the facility was excavated and cut open at a downgradient point near the property line where it connects with the City sewer. Figure 6 shows the known orientation of the building sanitary and stormwater lines based on construction activities and the line cleaning. A small portion of the line (approximately 15 feet) that connects to the City system could not be accessed for the cleanout. The adjacent City line along NW 30th Avenue was cleaned out by the City in 2002 and again in 2005.

A sample of the solids was analyzed for contaminants of concern identified by DEQ. No PCBs were detected and semi-volatile organic compounds were below JSCS sediment Screening Level Values (SLVs). Cadmium, copper, lead, and zinc were detected at concentrations that exceed JSCS sediment SLVs (Table 2). The source of the metals is not clear and may be from either past facility operations or area industrial stormwater runoff. Nevertheless, the solids were removed and are no longer a potential source of contamination to the combined sewer system.

Conclusions

The following conclusions are based on site investigation and cleanup information submitted to DEQ.

- The main issue of concern was shallow soil detection of PCBs in the western part of the site. PCB-contaminated soil was excavated from the area of concern. Confirmation samples were collected with residual PCBs in soil below DEQ's risk-based concentrations for the protection of human health and below screening level values for protection of ecological receptors.

- There does not appear to be a complete pathway for residual shallow soil contaminant migration from the site to the Willamette River. The potential for legacy sediments in sanitary/stormwater lines discharging from the facility was addressed by cleaning sediment from the Paco Pumps lines as well as prior line cleaning by the City.
- Paco Pumps no longer operates at the site. The site has been redeveloped including the sealing of interior sumps/floor drains, installation of new stormwater catch basins, a new roof, gravel cover on the west side of the building, and repaving of parking/street areas that received stormwater runoff.

Recommendation

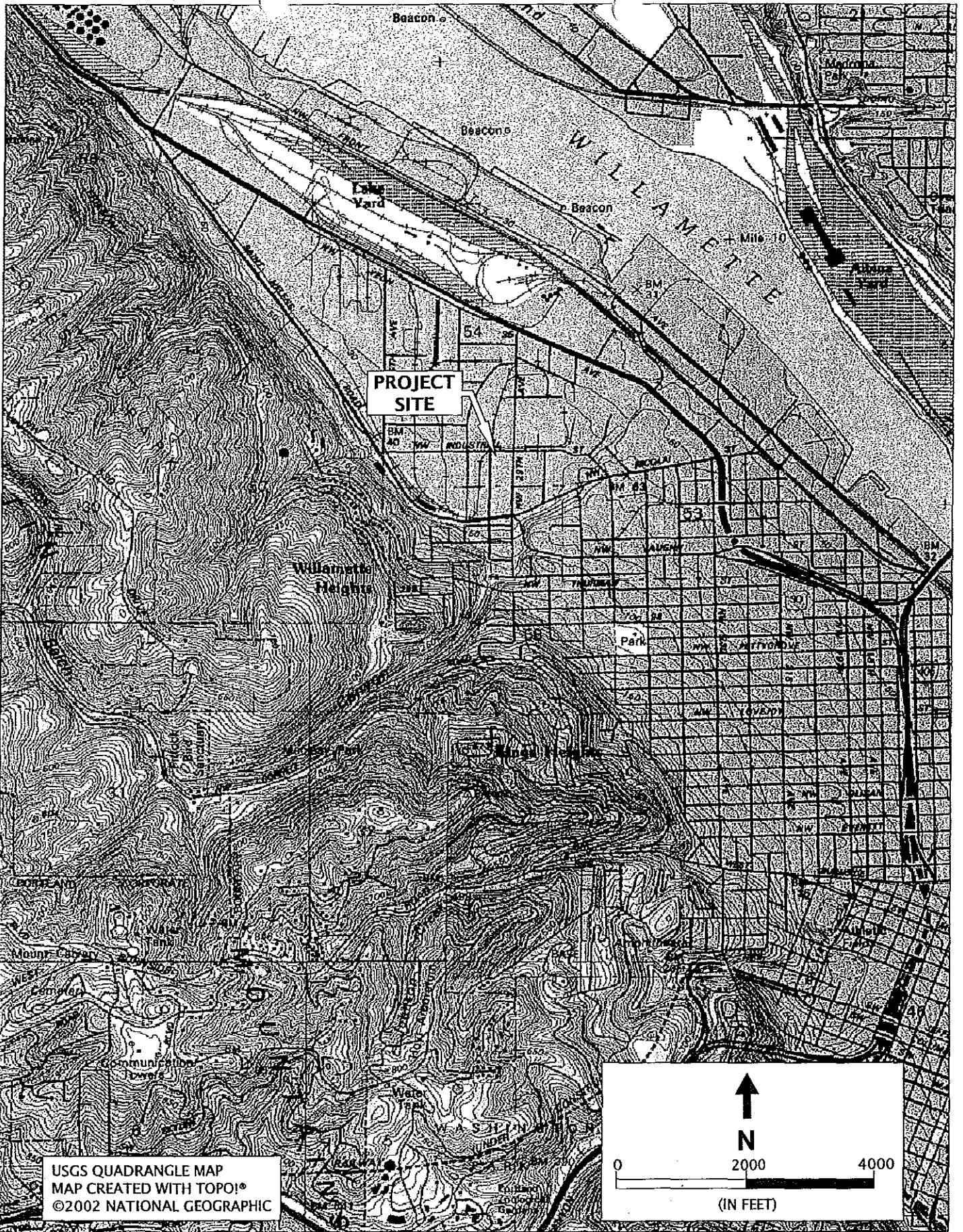
The site investigation and cleanup actions have been completed and based on the information presented to date, the Paco Pumps site is currently protective of public health and the environment under the Oregon Environmental Cleanup Law, ORS 465.200 et seq. We recommend a No Further Action determination for the Paco Pumps site. The next step is to issue a public notice regarding the proposed NFA.

Attachments:

Figures 1-6

Tables 1, 2

DWG Name: SulzerPump-3-01-FT-VM.dwg | Layout: Layout1 | Updated By: aday | Date: 4/3/2007 8:06:50 AM



GEO DESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

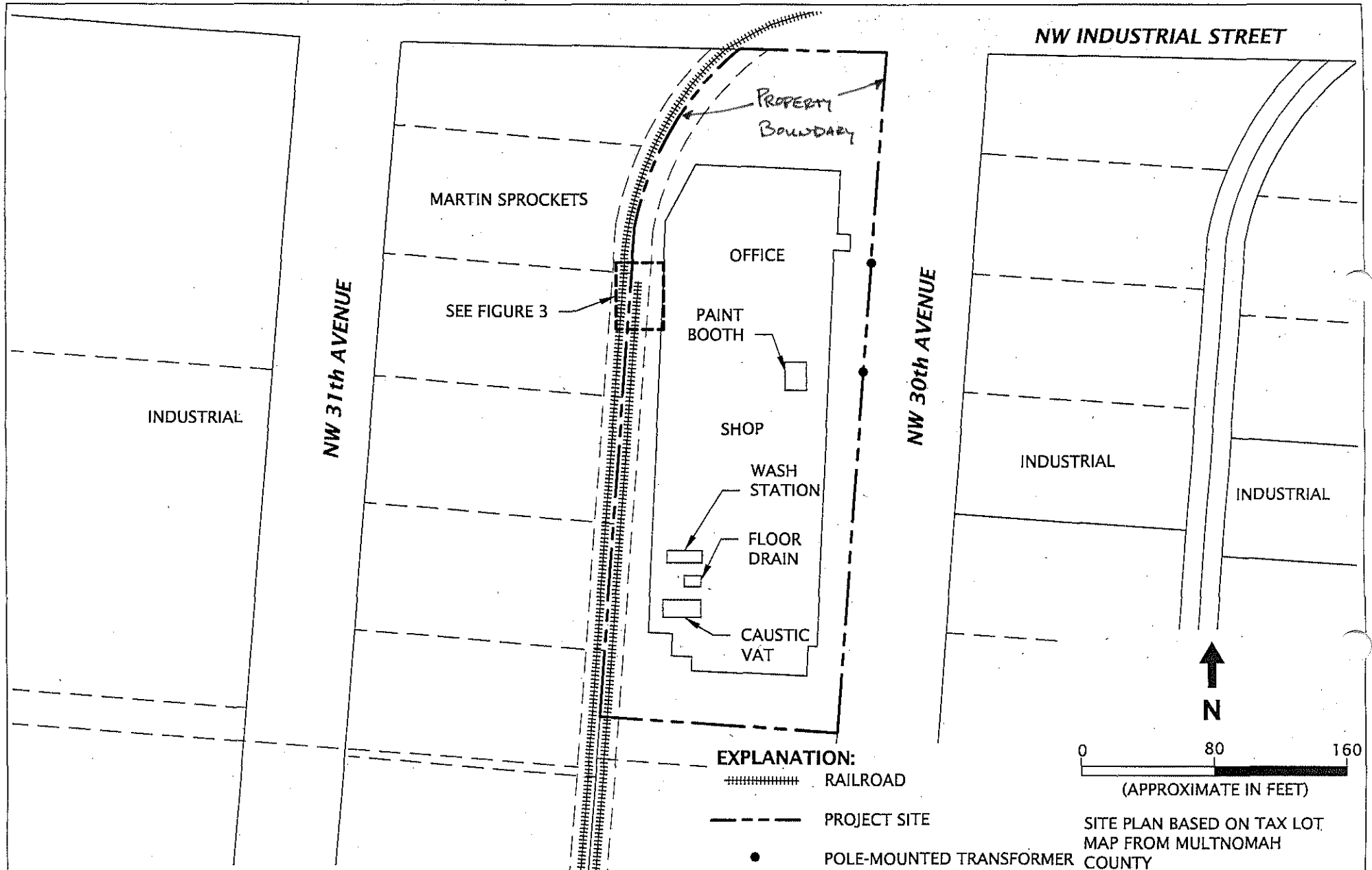
SULZERPUMP-3-01

APRIL 2007

VICINITY MAP

PACO PUMPS SERVICE CENTER
PORTLAND, OR

FIGURE 1



GEO DESIGN INC
 15575 SW Sequoia Parkway - Suite 100
 Portland OR 97224
 Off 503.968.8787 Fax 503.968.3068

SULZERUSH-1-01-09

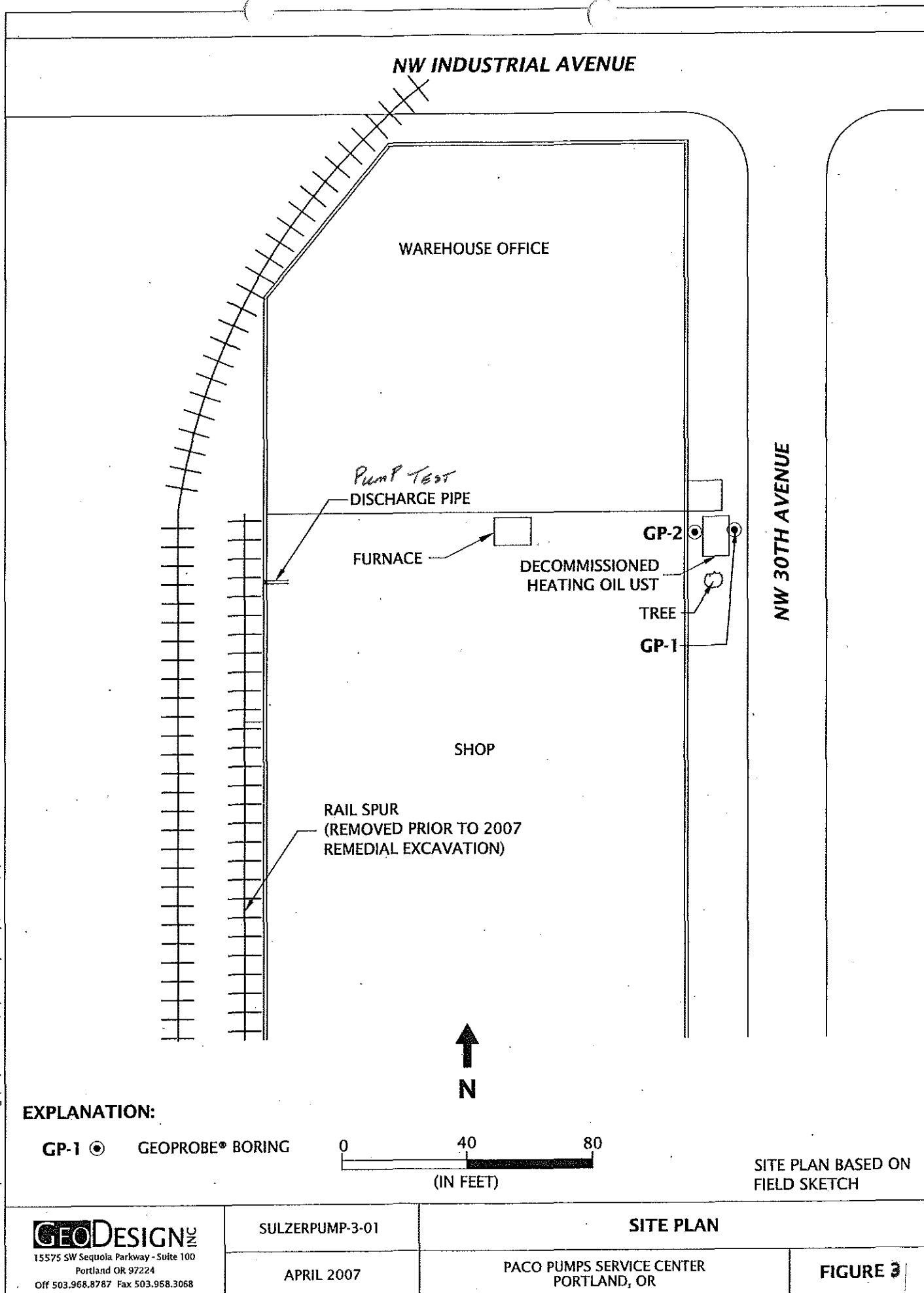
NOVEMBER 2004

SITE PLAN

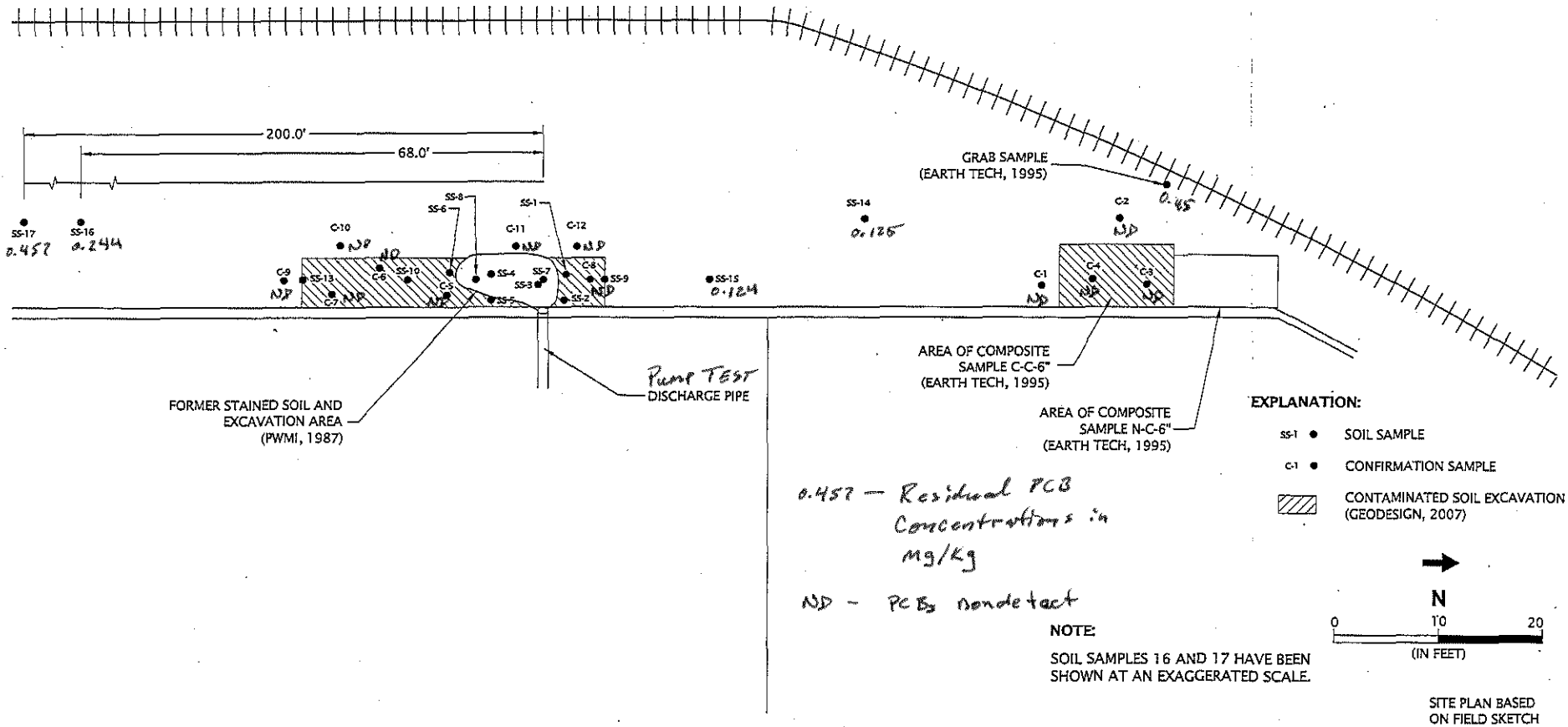
SERVICE CENTER
 PORTLAND, OR

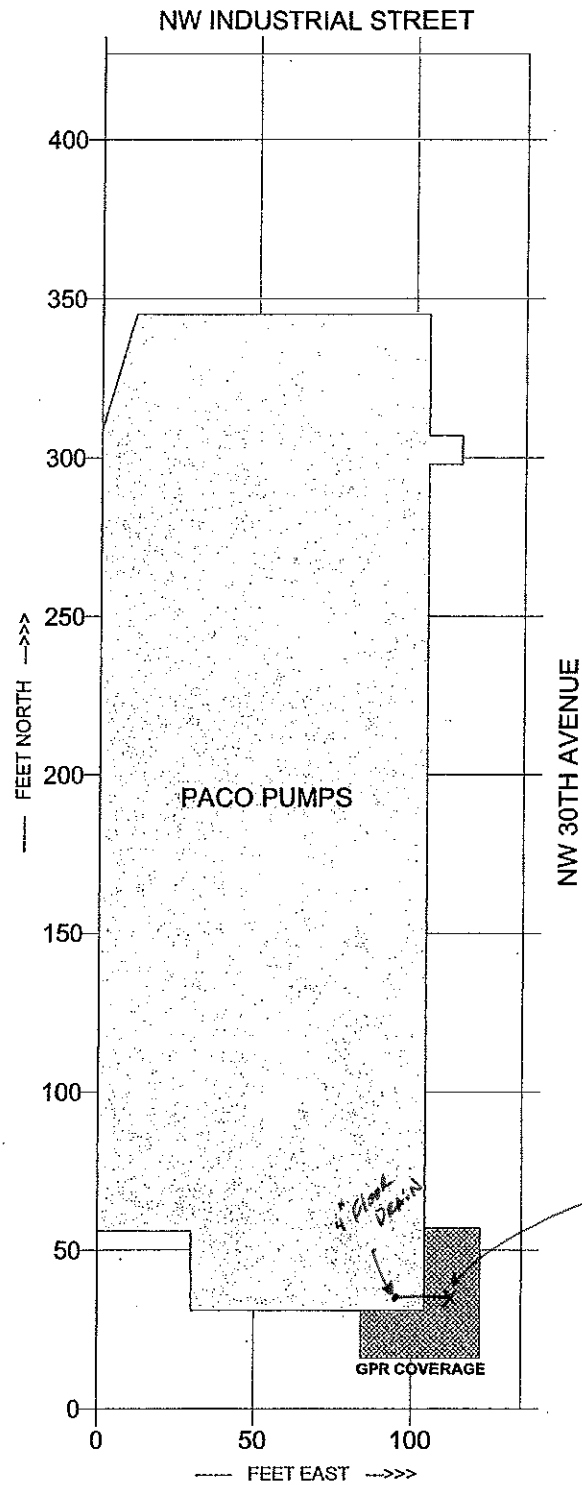
FIGURE 2


DWG Name: SulzerPump-3-01-F2-SP.dwg | Layout: FIG 2 | Updated By: aday | Date: 4/3/2007 8:09:05 AM



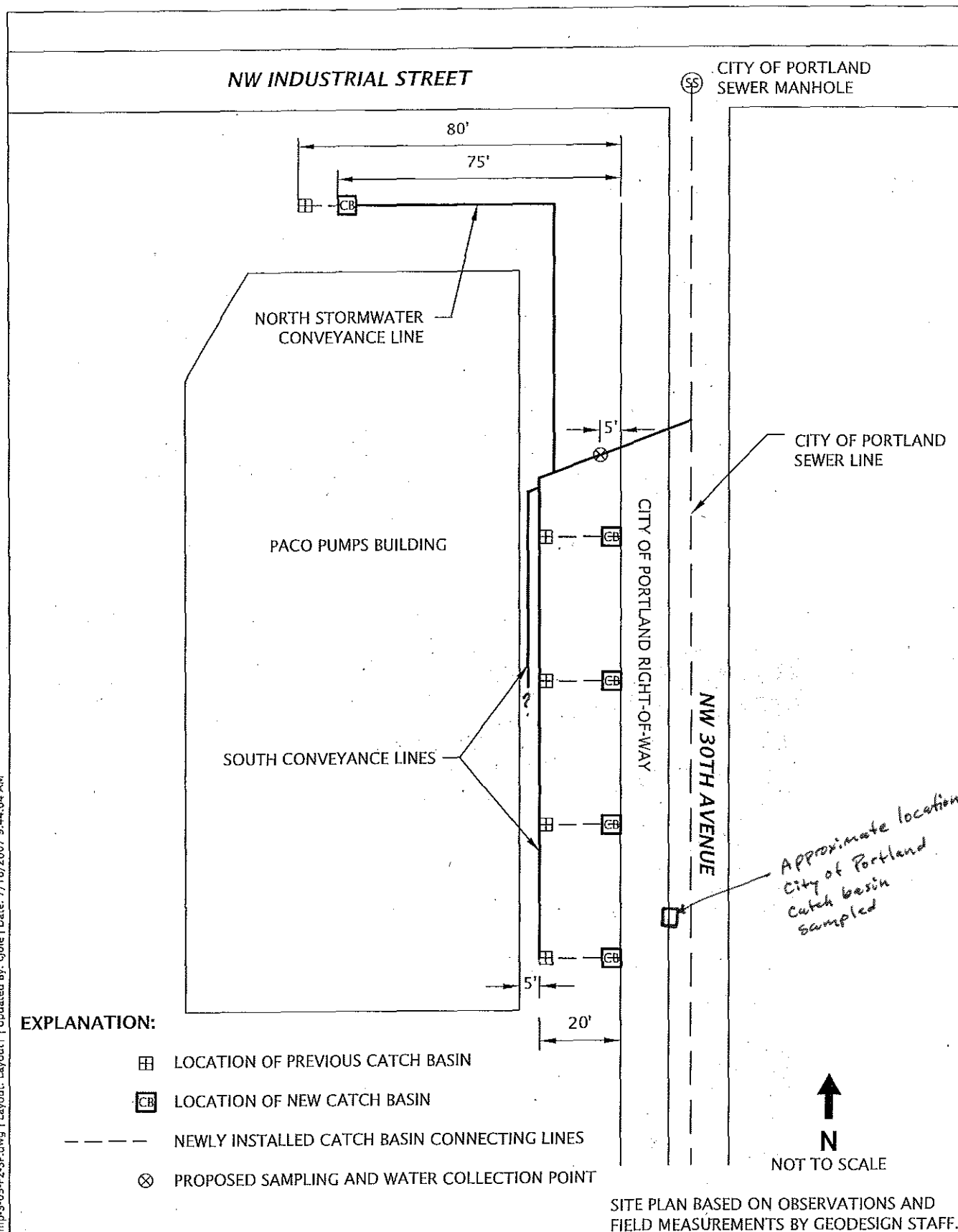
DWG Name: SulzerPump-3-01-1359.dwg | Layout: fig 3 | Updated by: aday | Date: 4/3/2007 9:40:11 AM





GeoPotential 	ENVIRONMENTAL & EXPLORATION GEOPHYSICS <small>23321 East W9th Fern Lane, Brightwood, Oregon 97111 • PH (503) 622-0154 • FAX (503) 622-0126 E-mail: GeoPotential@geop.com</small>	LOCATION: PACO PUMPS 2551 NW 30th Avenue Portland, Oregon CLIENT: GeoDesign	FIGURE 5 DRYWELL SURVEY GPR COVERAGE
DATE: August 30, 2006	SUBSURFACE MAPPING SURVEY	PROJECT No. 7653	

DWG Name: SulzerPump-3-03-F2-SP.dwg | Layout: Layout1 | Updated By: cjole | Date: 7/16/2007 9:44:04 AM



GEO DESIGN INC
15575 SW Sequoia Parkway - Suite 100
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SULZERPUMP-3-03

JULY 2007

SITE PLAN

PACO PUMPS SERVICE CENTER
PORTLAND, OR

FIGURE 6

TABLE 1
Summary of Chemical Analytical Results
Paco Pumps Service Center
Portland, Oregon

Sample I.D.	Sample Collected By	Sample Date	Sample Depth	Sample Type	Total PCBs EPA Method 8082 (mg/Kg)	Diesel- and Heavy Oil-Range Hydrocarbons Method NWTPH-Dx (mg/Kg)		Hydrocarbon Identification Method NWTPH-HCID
						Diesel Range	Heavy Oil Range	
Stained soil ¹	PWMI	08/04/87	0 to 3 inches	unknown	10.0	--	--	--
#2 (stained soil) ¹	PWMI	08/17/87	3 to 6 inches	composite	3.0	--	--	--
#3 (stained soil) ¹	PWMI	08/17/87	12 inches	grab	0.1	--	--	--
#4 (stained soil near building) ¹	PWMI	08/17/87	unknown	grab	3.0	--	--	--
#5 (discolored railroad tie) ¹	PWMI	08/17/87	NA	unknown	5.0	--	--	--
Clean railroad tie ¹	PWMI	09/24/87	NA	unknown	1.0	--	--	--
Excavated area ¹	PWMI	09/24/87	12 inches	composite	3.0	--	--	--
Drainage swale ¹	PWMI	09/24/87	unknown	composite	15.0	--	--	--
N-C 6"	Earth Tech	07/20/95	6 inches	composite	0.170	--	--	--
C-C 6"	Earth Tech	07/20/95	6 inches	composite	1.300	--	--	--
Surface 6"	Earth Tech	07/20/95	6 inches	grab	0.450	--	--	--
E-S-1 12"	Earth Tech	07/20/95	12 inches	composite	0.05 U	--	--	--
E-N-1 12"	Earth Tech	07/20/95	12 inches	composite	0.090	--	--	--
SS-1	GeoDesign	08/30/04	0 feet to 0.5 foot	grab	6.61	634	2,980	--
SS-2	GeoDesign	08/30/04	0 feet to 0.5 foot	grab	4.36	500 U	1,800	--
SS-3	GeoDesign	08/30/04	1 foot to 1.5 feet	grab	0.071	47.2	183	--
SS-4	GeoDesign	08/30/04	1 foot to 1.5 feet	grab	0.033 U	25 U	53	--
SS-5	GeoDesign	08/30/04	0 feet to 0.5 foot	grab	1.34	269	1,120	--
SS-6	GeoDesign	08/30/04	0 feet to 0.5 foot	grab	2.21	125	530	--
GP-1 (9-10)	GeoDesign	09/07/06	9 to 10 feet	grab	--	--	--	ND
GP-2 (9-10)	GeoDesign	09/07/06	9 to 10 feet	grab	--	--	--	ND
SS-7 (1.0-1.5)	GeoDesign	08/30/06	1 foot to 1.5 feet	grab	0.193	42.3	126	--
SS-7 (2.5-3.0)	GeoDesign	08/30/06	2.5 to 3 feet	grab	0.084	14.8 U	37.6	--
SS-8 (1.0-1.5)	GeoDesign	08/30/06	1 foot to 1.5 feet	grab	0.0779 U	14.7 U	29.4 U	--
SS-8 (2.5-3.0)	GeoDesign	08/30/06	2.5 to 3 feet	grab	0.0726 U	41.2	73	--
SS-9 (0.5-1.0)	GeoDesign	08/30/06	0.5 to 1.0 foot	grab	0.414	52.7	257	--
SS-10 (0.5-1.0)	GeoDesign	08/30/06	0.5 to 1.0 foot	grab	2.460	83.6	375	--
SS-13 (0.5-1.0)	GeoDesign	08/30/06	0.5 to 1.0 foot	grab	0.121	22.5	71.1	--
SS-14 (0.5-1.0)	GeoDesign	08/30/06	0.5 to 1.0 foot	grab	0.125	14.6 U	29.2 U	--
SS-15 (0.5-1.0)	GeoDesign	08/30/06	0.5 to 1.0 foot	grab	0.124	14.2	82.2	--

TABLE 1
Summary of Chemical Analytical Results
Paco Pumps Service Center
Portland, Oregon

Sample I.D.	Sample Collected By	Sample Date	Sample Depth	Sample Type	Total PCBs EPA Method 8082 (mg/Kg)	Diesel- and Heavy Oil-Range Hydrocarbons Method NWTPH-Dx (mg/Kg)		Hydrocarbon Identification Method NWTPH-HCID
						Diesel Range	Heavy Oil Range	
SS-16 (0.5-1.0)	GeoDesign	08/30/06	0.5 to 1.0 foot	grab	0.244	31.6	93.5	--
SS-17 (0.5-1.0)	GeoDesign	08/30/06	0.5 to 1.0 foot	grab	0.457	21.4	114	--
C-1 (0.5-1.0)	GeoDesign	01/31/07	0.5 to 1.0 foot	grab	0.0796 U	--	--	--
C-2 (0.5-1.0)	GeoDesign	01/31/07	0.5 to 1.0 foot	grab	0.0814 U	--	--	--
C-3 (1.5-2.0)	GeoDesign	01/31/07	1.5 to 2 feet	grab	0.0824 U	--	--	--
C-4 (1.5-2.0)	GeoDesign	01/31/07	1.5 to 2 feet	grab	0.081U	--	--	--
C-5 (1.5-2.0)	GeoDesign	01/31/07	1.5 to 2 feet	grab	0.0813 U	--	--	--
C-6 (1.5-2.0)	GeoDesign	01/31/07	1.5 to 2 feet	grab	0.0847 U	--	--	--
C-7 (1.5-2.0)	GeoDesign	01/31/07	1.5 to 2 feet	grab	0.0846 U	--	--	--
C-8 (1.5-2.0)	GeoDesign	01/31/07	1.5 to 2 feet	grab	0.0847 U	--	--	--
C-9 (0.5-1.0)	GeoDesign	01/31/07	0.5 to 1.0 foot	grab	0.0812 U	--	--	--
C-10 (0.5-1.0)	GeoDesign	01/31/07	0.5 to 1.0 foot	grab	0.0818 U	--	--	--
C-11 (0.5-1.0)	GeoDesign	01/31/07	0.5 to 1.0 foot	grab	0.0814 U	--	--	--
C-12 (0.5-1.0)	GeoDesign	01/31/07	0.5 to 1.0 foot	grab	0.0831 U	--	--	--
DEQ RBC ²					0.98	NE	NE	NE
DEQ RBC ³					NE	3,900	3,900	NE

Notes:

1. The locations of PWMI's sample locations were not well documented. The sample I.D.s are taken from text descriptions of their sampling event.

2. DEQ Soil Ingestion, Dermal Contact, and Inhalation RBC for an Occupational Scenario

3. DEQ Generic Diesel RBC for Residential Soil

--: not submitted to laboratory for analysis

Bolding indicates sample result exceeds EPA PRG of 0.074 mg/Kg for Industrial Soils.

U: The compound was analyzed for, but was not detected ("non-detect") at or above the laboratory method reporting limit.

TABLE 2
Stormwater System Sampling
Paco Pumps Service Center
2551 NW 30th Avenue
Portland, Oregon

Compound	S-1 (mg/Kg)	DEQ Toxicity SLV ¹ (mg/Kg)	DEQ Bioaccumulation SLV ¹ (mg/Kg)
Metals - EPA Methods 6020/7471			
Arsenic	7	33	NE
Barium	186	NE	NE
Cadmium	1	4.98	0
Chromium	35	111	4,200
Copper	172	149	10
Lead	352	128	128
Mercury	0.000162	1	NE
Nickel	30	49	316
Selenium	<.667	5	0
Silver	<1.330	5	NE
Zinc	463	459	3
Polychlorinated Biphenyls - EPA Method 8082			
Aroclor 1016	<0.002	0.53	0.42
Aroclor 1221	<0.0049	NE	NE
Aroclor 1232	<0.0072	NE	NE
Aroclor 1242	<0.0049	NE	0.002
Aroclor 1248	<0.0027	2	0.004
Aroclor 1254	<0.005	0.3	0.01
Aroclor 1260	<0.0028	0.2	NE
Semi-Volatile Organic Compounds - EPA Method 8270C			
1,2-Dichlorobenzene	NR	1.70	NE
1,3-Dichlorobenzene	NR	0.30	NE
1,4-Dichlorobenzene	NR	300.000	NE
1,2,4-Trichlorobenzene	<0.027	9.20	NE
Hexachlorobenzene	<0.025	0.10	NE
Hexachlorobutadiene	<0.032	0.60	NE
Hexachlorocyclopentadiene	<0.035	0.40	NE
Carbazole	NR	1.60	NE
Phenol	<0.029	0.05	NE
Pentachlorophenol	<0.031 J3	1.00	NE
Diethylphthalate	<0.04	0.60	NE
Di-n-butylphthalate	<0.027	0.10	NE
Bis(2-ethylhexyl)phthalate	<0.060	0.80	NE
Naphthalene	<0.026	0.561	NE
2-Methylnaphthalene	NR	0.20	NE
Acenaphthylene	<0.028	0.20	NE
Acenaphthene	<0.024	0.30	NE
Fluorene	<0.023	0.536	NE
Phenanthrene	0.058 J	1.17	NE

TABLE 2
Stormwater System Sampling
Paco Pumps Service Center
2551 NW 30th Avenue
Portland, Oregon

Compound	S-1 (mg/Kg)	DEQ Toxicity SLV ¹ (mg/Kg)	DEQ Bioaccumulation SLV ¹ (mg/Kg)
Semi-Volatile Organic Compounds - EPA Method 8270C			
Anthracene	<0.023	0.845	NE
Fluoranthene	0.097 J	2.23	NE
Pyrene	0.100 J	1.52	NE
Benzo(a)anthracene	0.055 J	1.05	NE
Chrysene	0.063 J	1.29	NE
Benzo(k)fluoranthene	<0.031	13.00	NE
Benzo(a)pyrene	0.056 J	1.45	NE
Indeno(1,2,3-cd)pyrene	0.041 J	0.10	NE
Dibenzo(a,h)anthracene	0.040 J	1.30	NE
Benzo(g,h,i)perylene	<0.029	0.30	NE
Notes: 1. Soil/Stormwater Sediment Screening Level Value from DEQ's Joint Source Control Strategy, December 2005. <: Indicates the analyte was not detected above the laboratory method reporting limits Bolding indicates an exceedance of either toxicity or bioaccumulation screening level value. DEQ: Oregon Department of Environmental Quality EPA: U.S. Environmental Protection Agency J: Estimated value below the lowest calibration point. Confidence correlates with concentration. J3: The associated batch quality control was outside the established quality control range for accuracy. mg/Kg: milligrams per kilogram NE: not established NR: not reported SLV: screening level value			